

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A process for regulating voltage applied by a voltage regulator to an integrated circuit that includes at least two units, comprising:
 - measuring instantaneous power consumption inside of the integrated circuit by sensing power consumption in at least two of said units and computing instantaneous power consumption inside of the integrated circuit according to the sensed power consumption in said units; and
 - regulating said voltage according to the measured instantaneous power.
2. (canceled)
3. (currently amended) The process of claim [[2]] 1, wherein sensing power consumption in a unit comprises detecting state changes in signals output by said unit.
4. (currently amended) The process of claim [[2]] 1, wherein computing comprises:
 - weighting the power consumption sensed in said units; and
 - adding the weight power consumption of said units.
5. (previously presented) The process of claim 1, wherein regulating comprises:
 - computing the derivative with respect to time of the measured instantaneous power, and

regulating said voltage according to said computed derivative.

6. (currently amended) An integrated circuit comprising at least one unit provided with a plurality of sensors for measuring power consumption and a power calculation unit for receiving the power consumption measured by each of said sensors and computing a power consumption for the circuit by weighting the power consumption measured by each of said sensors with weights and by adding the weighted power consumption, wherein the weights are stored in said integrated circuit.

7. (canceled)

8. (previously presented) The circuit of claim 6, wherein said sensor detects state change in signals output by said unit.

9. (previously presented) A combination of a circuit according to claim 6 with a voltage regulator, said voltage regulator being connected to said circuit and receiving the power consumption computed by power calculation unit.

10. (previously presented) The process of claim 3, wherein computing comprises:

weighting the power consumption sensed in said units; and adding the weight power consumption of said units.

11. (currently amended) The process of claim [[2]] 1, wherein regulating comprises:

computing the derivative with respect to time of the measured instantaneous power, and

regulating said voltage according to said computed derivative.

12. (previously presented) The process of claim 3, wherein regulating comprises:

computing the derivative with respect to time of the measured instantaneous power, and

regulating said voltage according to said computed derivative.

13. (previously presented) The process of claim 4, wherein regulating comprises:

computing the derivative with respect to time of the measured instantaneous power, and

regulating said voltage according to said computed derivative.

14. (currently amended) The circuit of claim [[7]] 6, wherein said sensor—detects state change in signals output by said unit.

15. (currently amended) A combination of a circuit according to claim [[7]] 6 further comprising a voltage regulator, said voltage regulator being connected to said circuit and receiving the power consumption computed by power calculation unit.

16. (previously presented) A combination of a circuit according to claim 8 further comprising a voltage regulator, said voltage regulator being connected to said circuit and receiving the power consumption computed by power calculation unit.

17. (currently amended) In combination, an integrated circuit having at least one sensor for sensing instantaneous power

consumption by said integrated circuit with a plurality of sensors inside the integrated circuit and a power calculation unit coupled to the plurality of sensors, and a power supply delivering current within a voltage range to said integrated circuit, the power supply being at least partially responsive to an increase in instantaneous power sensed inside the integrated circuit for increasing voltage supplied thereby before additional power is provided by the power supply to said integrated circuit in response to an increase in demand for current by said integrated circuit, wherein said power calculation unit computes power consumption for the circuit by weighting the power consumption measured by each of said sensors with weights and by adding the weighted power consumption, and the weights are stored in said integrated circuits.

18. (canceled)

19. (canceled)

20. (currently amended) A process for regulating a voltage applied by a voltage regulator to an integrated circuit, the voltage regulator being responsive to a drive signal for controlling the voltage, the process comprising:

measuring instantaneous power consumption inside the integrated circuit;

in response to an increase in the instantaneous power consumed inside the integrated circuit, supplying power from an internal inductance in the integrated circuit before additional power is provided by the voltage regulator; and

adjusting the drive signal regulating said voltage according to the measured instantaneous power prior to the

integrated circuit demanding additional current from said voltage regulator.

21. (canceled)